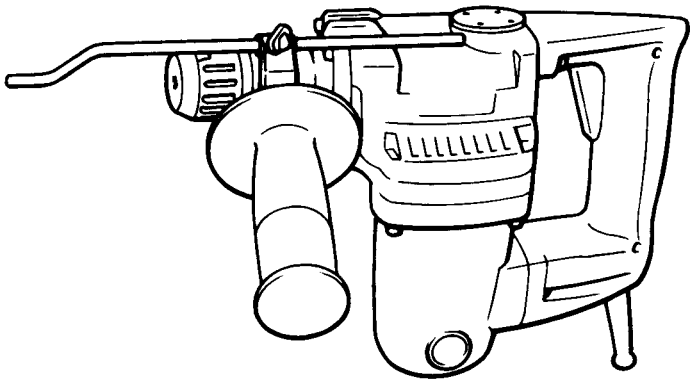
アメリカ

Rotary Hammer

20 mm (13/16") MODEL HR2010

INSTRUCTION MANUAL



DOUBLE INSULATION

SPECIFICATIONS

Capacities			No load speed (RPM)	Blows per minute	Overall length	Net weight
In concrete	In wood	In steel				
20 mm (13/16")	24 mm (15/16")	13 mm (1/2")	0 – 900	0 – 4,000	287 mm (11-5/16")	3.1 kg (6.8 lbs)

* Manufacturer reserves the right to change specifications without notice.
* Note: Specifications may differ from country to country.

WARNING: For your personal safety, READ and UNDERSTAND before using.

SAVE THESE INSTRUCTIONS FOR FUTURE REFERENCE.

GENERAL SAFETY RULES
(For All Tools)

WARNING! Read and understand all instructions. Failure to follow all instructions listed below, may result in electric shock, fire and/or serious personal injury.

SAVE THESE INSTRUCTIONS

READ ALL INSTRUCTIONS.

1. **Keep your work area clean and well lit.** Cluttered benches and dark areas invite accidents.
2. ***Do not operate power tools in explosive atmospheres, such as in the presence of flammable liquids, gases, or dust.*** Power tools create sparks which may ignite the dust or fumes.
3. **Keep bystanders, children, and visitors away while operating a power tool.** Distractions can cause you to loose control.
4. **Double Insulated tools are equipped with a polarized plug (one blade is wider than the other.) This plug will fit in a polarized outlet only one way. If the plug does not fit fully in the outlet, reverse the plug. If it still does not fit, contact a qualified electrician to install a polarized outlet. Do not change the plug in any way.** Double insulation ⧈ eliminates the need for the three wire grounded power cord and grounded power supply system.
5. **Avoid body contact with grounded surfaces such as pipes, radiators, ranges and refrigerators.** There is an increased risk of electric shock if your body is grounded.
6. **Don't expose power tools to rain or wet conditions.** Water entering a power tool will increase the risk of electric shock.
7. **Do not abuse the cord. Never use the cord to carry the tools or pull the plug from an outlet. Keep cord away from heat, oil, *sharp edges or moving parts.* Replace damaged cords immediately.** Damaged cords increase the risk of electric shock.
8. **When operating a power tool outside, use an outdoor extension cord marked "W-A" or "W."** *These cords are rated for outdoor use and reduce the risk* of electric shock.
9. **Stay alert, watch what you are doing and use common sense when operating a power tool. Do not use tool while tired or under the influence of drugs, alcohol, or medication.** A moment of inattention while operating power tools may result in serious personal injury.
10. **Dress properly. Do not wear loose clothing or jewelry. Contain long hair. Keep your hair, clothing, and gloves away from moving parts.** Loose clothes, jewelry or long hair can be caught in moving parts.

11. **Avoid accidental starting. Be sure switch is off before plugging in.** Carrying tools with your finger on the switch or plugging in tools that have the switch on invites accidents.
12. **Remove adjusting keys or switches before turning the tool on.** A wrench or a key that is left attached to a rotating part of the tool may result in personal injury.
13. **Do not overreach. Keep proper footing and balance at all times.** Proper footing and balance enables better control of the tool in unexpected situations.
14. **Use safety equipment. Always wear eye protection.** Dust mask, non-skid safety shoes, hard hat, or hearing protection must be used for appropriate conditions.
15. **Use clamps or other practical way to secure and support the workpiece to a stable platform.** Holding the work by hand or against your body is unstable and may lead to loss of control.
16. **Do not force tool. Use the correct tool for your application.** The correct tool will do the job better and safer at the rate for which it is designed.
17. **Do not use tool if switch does not turn it on or off.** Any tool that cannot be controlled with the switch is dangerous and must be repaired.
18. **Disconnect the plug from the power source before making any adjustments, changing accessories, or storing the tool.** Such preventive safety measures reduce the risk of starting the tool accidentally.
19. **Store idle tools out of reach of children and other untrained persons.** Tools are dangerous in the hands of untrained users.
20. **Maintain tools with care. Keep cutting tools sharp and clean.** Properly maintained tools, with sharp cutting edges are less likely to bind and are easier to control.
21. **Check for misalignment or binding of moving parts, breakage of parts, and any other condition that may affect the tools operation. If damaged, have the tool service before using.** Many accidents are caused by poorly maintained tools.
22. **Use only accessories that are recommended by the manufacturer for your model.** Accessories that may be suitable for one tool, may become hazardous when used on another tool.
23. **Tool service must be performed only by qualified repair personnel.** Service or maintenance performed by unqualified personnel could result in a risk of injury.
24. **When servicing a tool, use only identical replacement parts. Follow instructions in the Maintenance section of this manual.** Use of unauthorized parts or failure to follow Maintenance Instructions may create a risk of electric shock of injury.

SPECIFIC SAFETY RULES FOR ROTARY HAMMER

1. **Hold tools by insulated gripping surfaces when performing an operation where the cutting tool may contact hidden wiring or its own cord.** Contact with a "live" wire will make exposed metal parts of the tool "live" and shock the operator.
2. **Wear ear protectors when using the tool for extended periods.** Prolonged exposure to high intensity noise can cause hearing loss.

SYMBOLS

The followings show the symbols used for tool.

V ..... volts
A ..... amperes
Hz ..... herts
kg ..... kliograms
h ..... hours
min ..... minutes
s ..... seconds

..... alternating current

 ..... direct current

n_0 ..... no load speed

..... alternating or direct current

..... Class II Construction

..... splash-proof construction

..... watertight construction

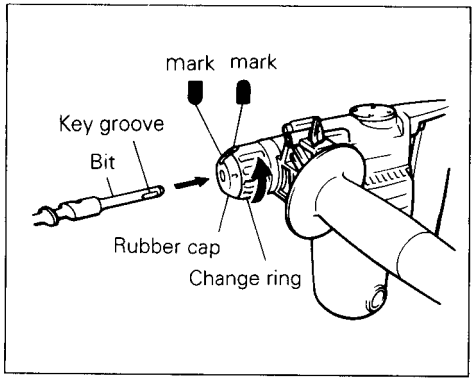
.../min ..... revolutions or reciprocation per minute

..... number of blow

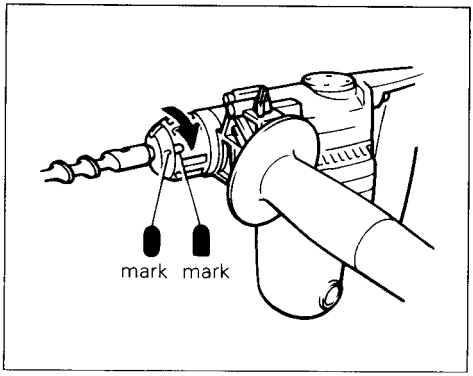
Installing or removing the drill bit

CAUTION:
Always be sure that the tool is switched off and unplugged before installing or removing the bit.

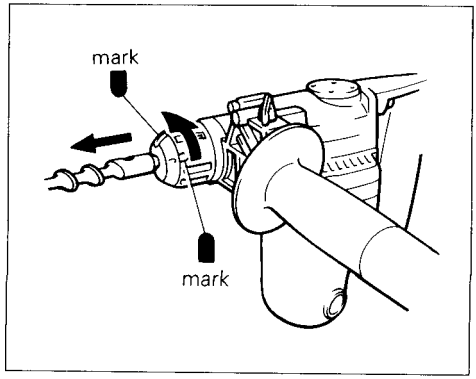
To install the bit, turn the change ring in the direction of the arrow until the ▮ mark on the change ring is aligned with the ▮ mark on the rubber cap. Align the key groove on the bit shank with the ▮ mark on the rubber cap and insert the bit.



Turn the change ring in the direction of the arrow until the ▮ mark on the change ring is aligned with the ▮ mark on the rubber cap to secure the bit.

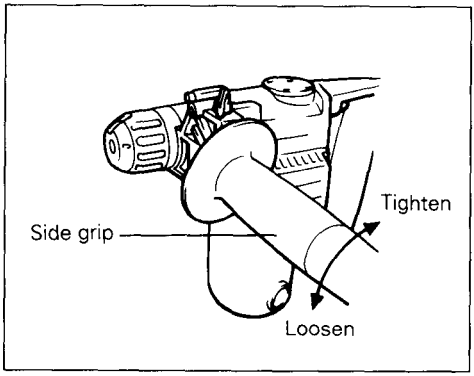


To remove the bit, turn the change ring in the direction of the arrow until the ▮ mark on the change ring is aligned with the ▮ mark on the rubber cap. Then pull out the bit.



Side grip (auxiliary handle)

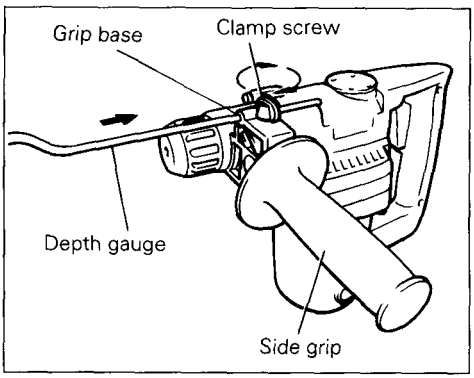
The side grip swings around to either side, allowing easy handling of the tool in any position. Loosen the side grip by turning it counterclockwise, swing it to the desired position and then tighten it by turning clockwise.



Depth gauge

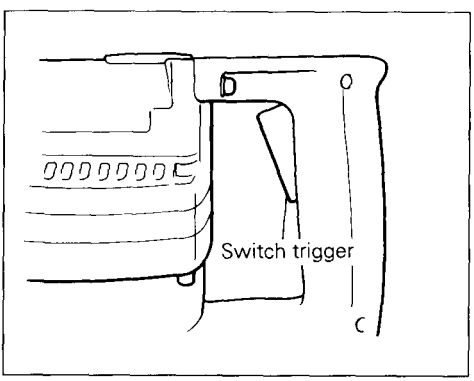
The depth gauge is convenient for drilling holes of uniform depth. Insert the depth gauge into the hole in the grip base. Adjust the depth gauge to the desired depth and then tighten the clamp screw to secure the depth gauge.

NOTE:
The depth gauge cannot be used at the position where the depth gauge strikes against the gear housing.



Switch action

To start the tool, simply pull the trigger. Tool speed is increased by increasing pressure on the trigger. Release the trigger to stop.



CAUTION:

- Before plugging in the tool, always check to see that the switch trigger actuates properly and returns to the "OFF" position when released.
- Do not tape, tie or otherwise secure the trigger in the "ON" position.

Torque limiter

The torque limiter will actuate when a certain torque level is reached. The motor will disengage from the output shaft. When this happens, the bit will stop turning.

CAUTION:

- As soon as the torque limiter actuates, switch off the tool immediately. This will help prevent premature wear of the tool.
- Hole saws, core bits, diamond core bits, etc. cannot be used with this tool. They tend to pinch or catch easily in the hole. This will cause the torque limiter to actuate too frequently.

Hammer drilling operation

Position the bit at the desired location for the hole, then pull the trigger. Do not force the tool. Light pressure gives best results. Keep the tool in position and prevent it from slipping away from the hole. Do not apply more pressure when the hole becomes clogged with chips or particles. Instead, run the tool at an idle, then remove the bit partially from the hole. By repeating this several times, the hole will be cleaned out and normal drilling may be resumed.

CAUTION:

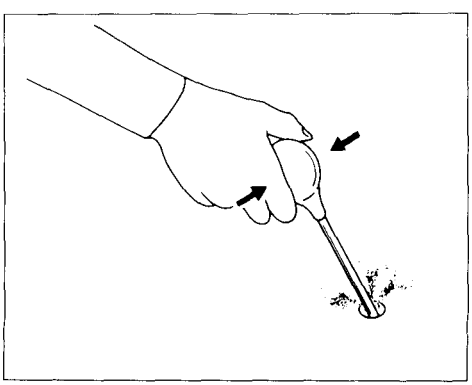
There is a tremendous and sudden twisting force exerted on the tool/bit at the time of hole breakthrough, when the hole becomes clogged with chips and particles, or when striking reinforcing rods embedded in the concrete. Always use the side grip (auxiliary handle) and firmly hold the tool by both side grip and switch handle during operations. Failure to do so may result in the loss of control of the tool and potentially severe injury.

Bit grease

Coat the bit shank head beforehand with a small amount (about 0.5 - 1 g; 0.02 - 0.04 oz.) of bit grease. This chuck lubrication assures smooth action and longer service life.

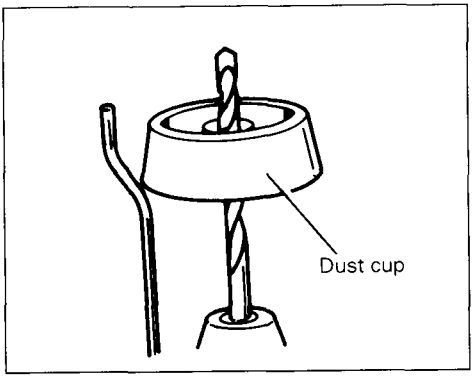
Blow-out bulb

Use the blow-out bulb to clean out the hole.



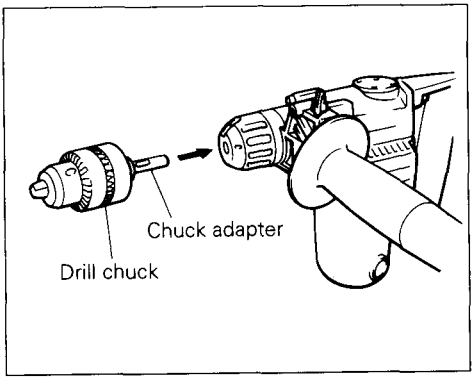
Dust cup

Use the dust cup to prevent dust from falling over the tool and on yourself when performing overhead drilling operations. Attach the dust cup to the bit as shown in the figure. The dust cup can be attached to the bit up to 14.5 mm (9/16") in diameter.



Drilling in wood or metal

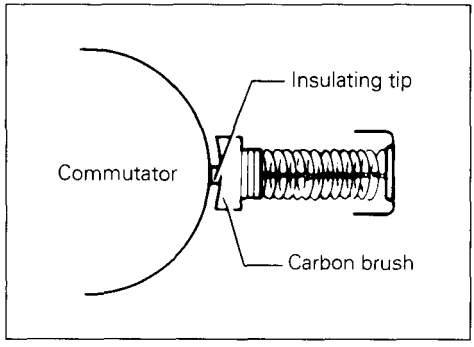
Use the optional drill chuck assembly (consisting of drill chuck and chuck adapter assembly). When installing it, refer to "installing or removing drill bit" described on the previous page. You can drill up to 13 mm (1/2") diameter in metal and up to 24 mm (15/16") diameter in wood.



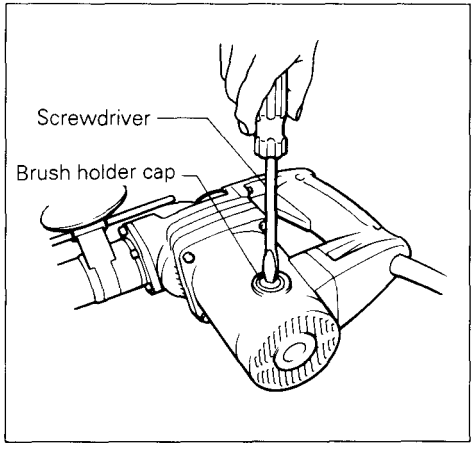
MAINTENANCE

CAUTION:
Always be sure that the tool is switched off and unplugged before attempting to perform inspection or maintenance.

Replacing carbon brushes
When the resin insulating tip inside the carbon brush is exposed to contact the commutator, it will automatically shut off the motor.
When this occurs, both carbon brushes should be replaced at the same time. Use only identical carbon brushes.



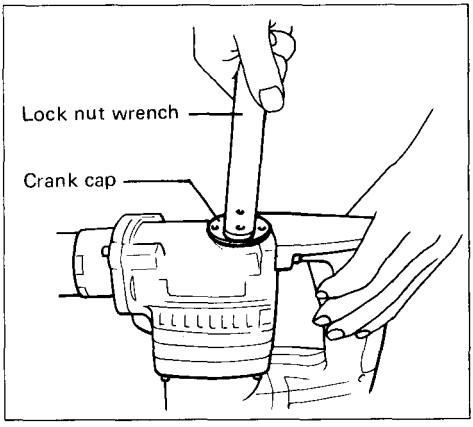
Use a screwdriver to remove the brush holder caps. Take out the worn carbon brushes, insert the new ones and secure the brush holder caps.

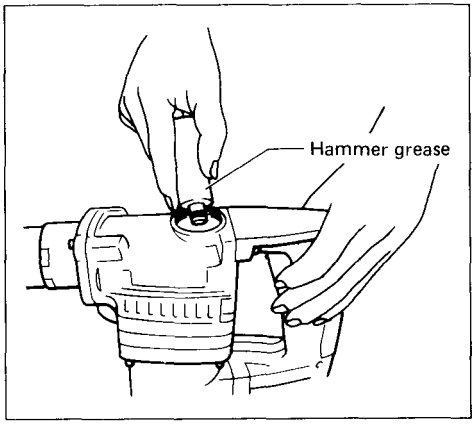


Lubrication

This tool requires no hourly or daily lubrication because it has a grease-packed lubrication system. Lubricate the tool every time the carbon brushes are replaced.

Run the tool for several minutes to warm it up. Switch off and unplug the tool. Remove the crank cap using a Makita lock nut wrench (optional accessory). Rest the tool on the table with the bit end pointing upwards. This will allow the old grease the collect inside the crank housing. Wipe out the old grease inside and replace with a fresh grease (30 g; 1 oz). Use only Makita genuine grease (optional accessory). Filling with more than the specified amount of grease (approx. 30 g; 1 oz) can cause faulty hammering action or tool failure. Fill only with the specified amount of grease. Reinstall the crank cap and tighten with the lock nut wrench. Do not tighten the crank cap excessively. It is made of resin and is subject to breakage.





ACCESSORIES

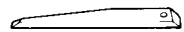
CAUTION:

These accessories or attachments are recommended for use with your Makita tool specified in this manual. The use of any other accessories or attachments might present a risk of injury to persons. The accessories or attachments should be used only in the proper and intended manner.

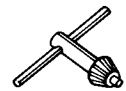
• **SDS plus Carbide-tipped bits**

Part No.	Diameter	Overall length
711140-A	5/32"	4"
711141-A	5/32"	6"
711142-A	3/16"	4"
711143-A	3/16"	6"
711144-A	3/16"	8"
711145-A	3/16"	12"
711146-A	3/16"	14"
711147-A	1/4"	4"
711148-A	1/4"	6"
711149-A	1/4"	8"
711150-A	1/4"	10"
711151-A	1/4"	14"
711152-A	5/16"	6"
711153-A	5/16"	12"
711155-A	3/8"	6"
711156-A	3/8"	12"
711157-A	3/8"	24"
711158-A	7/16"	6"
711159-A	7/16"	12"
711160-A	7/16"	18"
711161-A	1/2"	6"
711162-A	1/2"	12"
711163-A	1/2"	18"
711164-A	1/2"	24"
711165-A	9/16"	6"
711166-A	9/16"	12"
711167-A	9/16"	18"
711168-A	5/8"	8"
711169-A	5/8"	12"
711170-A	5/8"	18"
711171-A	5/8"	24"
711172-A	11/16"	8"
711173-A	3/4"	8"
711174-A	3/4"	12"
711175-A	3/4"	18"

• **Cotter (Drift key)**
Part No. 765010-1



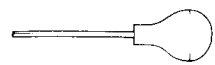
• **Chuck key S13**
Part No. 763411-7



• **Drill chuck S13**
Part No. 763047-2

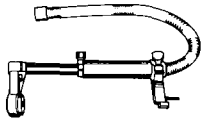
• **Chuck adapter**
Part No. 122331-8

• **Blow-out bulb**
Part No. 765009-6

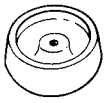


• **Depth gauge**
Part No. 321144-6

- **Dust extractor attachment**
  For bits to 1" diameter
  Part No. 192176-8



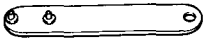
- **Dust cup 5**
  Part No. 421342-3



- **Bit grease 100 g; 3.5 oz**
  Part No. 181573-3

- **Hammer grease 30 g : 1 oz.**
  Part No. 181490-7

- **Lock nut wrench 28**
  Part No. 782402-9

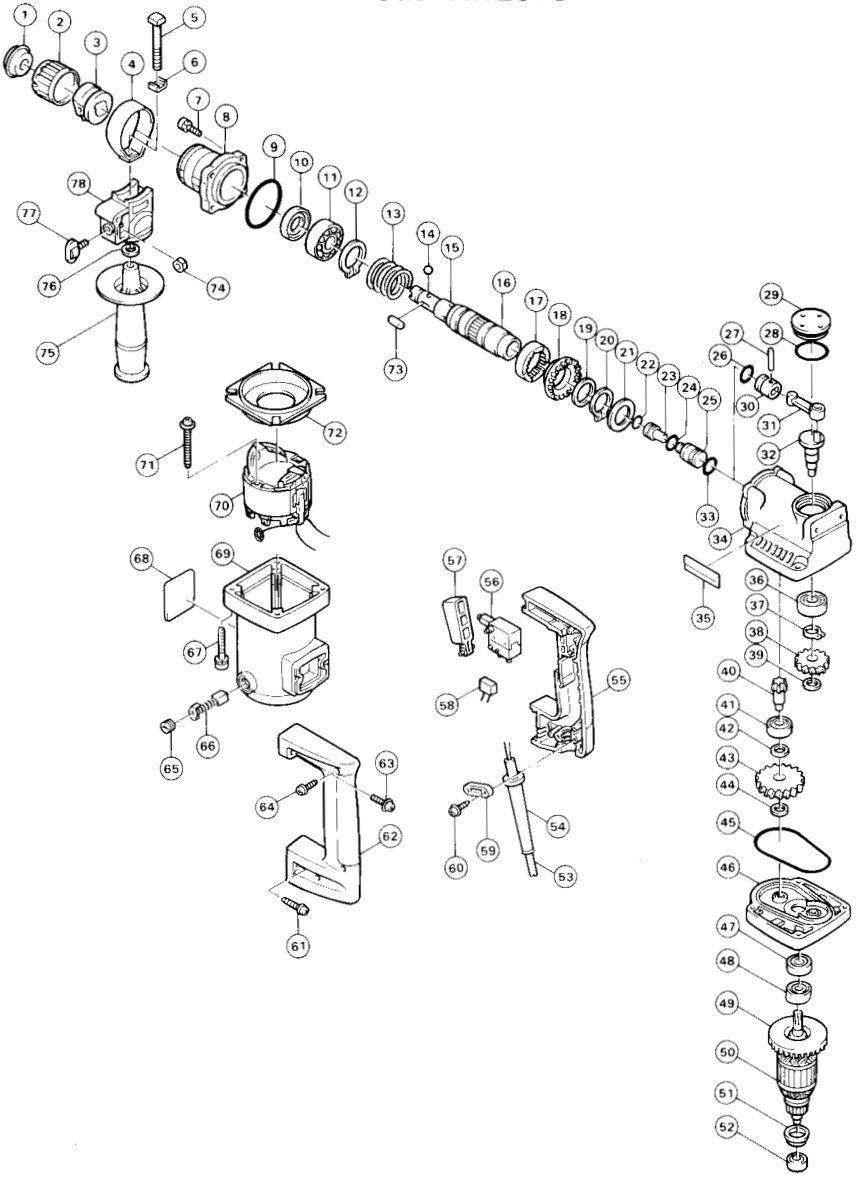


- **Grip 36**
  Part No. 273479-0

- **Plastic carrying case**
  Part No. 824464-2

- **Safety goggle**
  Grey lens: Part No. 191684-A
  Clean lens: Part No. 191685-A

20 mm (13/16")
ROTARY HAMMER
Model HR2010



Note: The switch, noise suppressor and other part configurations may differ from country to country.

ITEM NO.	NO. USED	DESCRIPTION
MACHINE		
1	1	Cap 37
2	1	Change Ring Cover
3	1	Change Ring Complete
4	1	Belt
5	1	Square Bolt M8x60
6	1	Square Washer 9
7	4	Hex. Socket Head Bolt M5x20
8	1	Barrel
9	1	O Ring 50
10	1	Oil Seal 20
11	1	Ball Bearing 6004
12	1	Retaining Ring S–30
13	1	Compression Spring 31
14	1	Steel Ball 7.1
15	4	Steel Ball 5.6
16	1	Tool Holder
17	1	Spiral Bevel Gear 33
18	1	Clutch Cam
19	1	Flat Washer 26
20	1	Retaining Ring S–26
21	1	Flat Washer 23
22	1	O Ring 10
23	1	Impact Bolt
24	1	O Ring 11
25	1	Striker
26	1	O Ring 15
27	1	Pin 5
28	1	O Ring 36
29	1	Crank Cap
30	1	Piston
31	1	Connecting Rod Complete
32	1	Crank Shaft
33	1	O Ring 15
34	1	Crank Housing Complete
35	1	Makita Label
36	1	Ball Bearing 6002
37	1	Retaining Ring S–15
38	1	Helical Gear 29
39	1	Flat Washer 8
MACHINE		
40	1	Spiral Bevel Gear 9
41	1	Ball Bearing 6001
42	1	Flat Washer 12
43	1	Helical Gear 43
44	1	Flat Washer 8
45	1	O Ring 78
46	1	Gear Housing Complete
47	1	Ball Bearing 6000
48	1	Oil Seal 12
49	1	Fan 60
50	1	ARMATURE ASSEMBLY (With Item 49, 51 & 52)
51	1	Insulation Washer
52	1	Ball Bearing 608LB
53	1	Cord
54	1	Cord Guard
55	1	Handle Set (With Item 62)
56	1	Switch
57	1	Switch Lever
59	1	Strain Relief
60	2	Tapping Screw 4x18
61	2	Tapping Screw Flange PT 5x25
62	1	Handle Set (With Item 55)
63	2	Pan Head Screw M5x25 (With Washer)
64	3	Tapping Screw 4x18
65	2	Brush Holder Cap
66	2	A.C. Carbon Brush
67	4	Hex. Socket Head Bolt M5x45
68	1	Name Plate
69	1	Motor Housing Complete
70	1	FIELD ASSEMBLY
71	2	Tapping Screw Flange PT 5x50
72	1	Baffle Plate
73	2	Roller 7
74	1	Hex. Nut M5
75	1	Grip 36 Complete
76	1	Flat Washer 8
77	1	Thumb Screw M5x14
78	1	Grip Base

Note: The switch and other part specifications may differ from country to country.

アメリカ

MAKITA LIMITED ONE YEAR WARRANTY

Warranty Policy

Every Makita tool is thoroughly inspected and tested before leaving the factory. It is warranted to be free of defects from workmanship and materials for the period of ONE YEAR from the date of original purchase. Should any trouble develop during this one-year period, return the COMPLETE tool, freight prepaid, to one of Makita's Factory or Authorized Service Centers. If inspection shows the trouble is caused by defective workmanship or material, Makita will repair (or at our option, replace) without charge.

This Warranty does not apply where:

- repairs have been made or attempted by others;
- repairs are required because of normal wear and tear;
- The tool has been abused, misused or improperly maintained;
- alterations have been made to the tool.

IN NO EVENT SHALL MAKITA BE LIABLE FOR ANY INDIRECT, INCIDENTAL OR CONSEQUENTIAL DAMAGES FROM THE SALE OR USE OF THE PRODUCT. THIS DISCLAIMER APPLIES BOTH DURING AND AFTER THE TERM OF THIS WARRANTY.

MAKITA DISCLAIMS LIABILITY FOR ANY IMPLIED WARRANTIES, INCLUDING IMPLIED WARRANTIES OF "MERCHANTABILITY" AND "FITNESS FOR A SPECIFIC PURPOSE," AFTER THE ONE-YEAR TERM OF THIS WARRANTY.

This Warranty gives you specific legal rights, and you may also have other rights which vary from state to state. Some states do not allow the exclusion or limitation of incidental or consequential damages, so the above limitation or exclusion may not apply to you. Some states do not allow limitation on how long an implied warranty lasts, so the above limitation may not apply to you.

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Anjo, Aichi 446 Japan

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